

Work Order ID 63399

Thursday, October 28, 2010 3:05:41 PM

Page 1

Item ID: D412-664-203TRN

Accept

Setup Start

Revision ID:

Stop

Item Name: Crosstube Turning Detail

Start Date: 10/28/2010 Start Qty: 1.00

Cust Item ID:

Required Date: 11/11/2010 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: 

Date: 10/28 Tooling:

Date:

Run Start

QC:

Date: SPC (Y/N):

Date:

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D412-664-243

Rev E

100

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA166
2-Turn first side as per Folio FA166
3- File transition lines smooth.

110

0.00



QC1- Inspect dimensions to dimension sheet

QC

Memo

0.00

Quality Control

120

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA166
2- File transition lines smooth.
3- Remove sand and plugs
4-Scribe part # and batch # using vibrating stilus

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130

QC1- Inspect dimensions to dimension sheet

0.00



QC

Memo

0.00

amt 10/11/10

Quality Control

140

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

8 10/11/10

Quality Control

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

SAD
10-11-10

Hand Finishing Crosstubes

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Customer:




Reference:

Run Start

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160  QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				1	0	BE 10/11/10	
170  Packaging Packaging	Packaging Memo Identify and stock in kanban rack Location: <u>LG</u>	0.00 0.00				①			
180  QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00				ck		10/11/11 mr 10-11-11	

SAD 10-11-10

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Picklist Print

Thursday, October 28, 2010 3:05:46 PM

Page 1

Work Order ID: 63399

Parent Item: D412-664-203TRN

Parent Item Name: Crosstube Turning Detail



Start Date: 10/28/2010

Required Date: 11/11/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 08-03-06 new issue DD verified by: eec
IPP Rev B 08.04.02 Removed polish EC verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D6009-129

Manufactured

No

120

Each

16.0000

1

1



Crosstube Material

Location

Loc Qty

Loc Code

LG

16

38342

2

→ 53594

14

_____ 10/11/09

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NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	63329
Description: Crosstube Assembly (412 High Aft)	Part Number:	D412-664-243
Inspection Dwg: D412-664-243 Rev: E		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.684	+0.005/-0.000	2.688	✓	Vern	ML-7
	2.748	+0.005/-0.000	2.753	✓	"	"
	2.884	+0.005/-0.000	2.889	✓	"	"
	3.019	+0.005/-0.000	3.024	✓	Micro	CNL-05
	3.163	+0.005/-0.000	3.168	✓	"	"
	3.308	+0.005/-0.000	3.313	✓	"	"
	3.429	+0.005/-0.000	3.433	✓	"	"
	2.990	+0.005/-0.000	2.990	✓	Vern	ML-7
	2.618	+0.005/-0.000	2.620	✓	"	"
	0.200	+/-0.010	.200	✓	"	"
	R0.063	+/-0.010	R.063	✓	Rad-gage	REF
	R0.500	+/-0.010	R.500	✓	"	"
	4.971	+/-0.030	4.970	✓	Vern	ML-7
SIDE B	2.684	+0.005/-0.000	2.688	✓	Vern	ML-7
	2.748	+0.005/-0.000	2.753	✓	"	"
	2.884	+0.005/-0.000	2.889	✓	"	"
	3.019	+0.005/-0.000	3.024	✓	Micro	CNL-05
	3.163	+0.005/-0.000	3.168	✓	"	"
	3.308	+0.005/-0.000	3.313	✓	"	"
	3.429	+0.005/-0.000	3.432	✓	"	"
	2.990	+0.005/-0.000	2.991	✓	Vern	ML-7
	2.618	+0.005/-0.000	2.620	✓	"	"
	0.200	+/-0.010	.200	✓	"	"
	R0.063	+/-0.010	R.063	✓	Rad-gage	REF
	R0.500	+/-0.010	R.500	✓	"	"
	4.971	+/-0.030	4.970	✓	Vern	ML-7
	124.100	+/-0.020	124.100	✓	HT-Gage	ML-7

Measured by:	ank	Audited by:	S	Prototype Approval:	N/A
Date:	10/11/10	Date:	10/11/10	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.06.16	New Issue (P/O D412-664-203)	KJ/JLM	
B	06.03.09	Dwg Rev updated	KJ/JLM	
C	07.05.08	Tolerance updated for dimension 4.971	KJ/JLM	
D	10.02.02	Dimension 124.100 was 124.09	KJ	

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Item	Qty	Part Number	Description
	-243		
1	X	D412-664-243	CROSSTUBE ASSEMBLY (412 HIGH AFT)
2	1	D6009-129	CROSSTUBE
3	2	D3595-063-570	RUBBER CUSHION
4	1	D2896-1	SUPPORT
5	2	D3189-1	CHAFING SHIELD
6	2	D2856-600-1009	ABRASION STRIP
7	4	MS21920-28	CLAMP
8	2	MS21920-30	CLAMP (OR MS21920-32)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION R80-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 63377
2810-10-28

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6009-129
FINISHED LENGTH = 124.100±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D412-664-243" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 47.0 lbs (PER LIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2896-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2896-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-30 CLAMPS (OR -32) WITH D3595-063-570 RUBBER CUSHIONS TO SECURE THE D2896-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- 14) INSTALL D2856-600-1009 ABRASION STRIPS WITH A 0.13 REF GAP ON BOTTOM SIDE OF CROSSTUBE PER QSI 035.
- 15) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 16) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED
2009-10-29
WJP

E	REFORMAT/REVISE GENERAL NOTES; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; RELOCATED FLAG #6 PER PAR 06-046 (ZN A6-3); ADD TOLERANCE (ZN B6-3, C4-3, C8-3 & C5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	09.09.30
D	REMOVE D2732-058, CHANGE TO D3595-063-570	PH	07.03.09
C	REMOVE D2856-600-1087, ADD D2732-058 & MAGNOBOND 6398, MS21920-32 WAS MS21920-30	MB	06.10.27
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	01.10.17
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	GP	DRAWING NO.	REV. E
MFG. APPR.	SS	D412-664-243	SHEET 1 OF 4
APPROVED	AD	TITLE	SCALE
DE APPR.	TH	CROSSTUBE ASSEMBLY (412 HI AFT)	NTS
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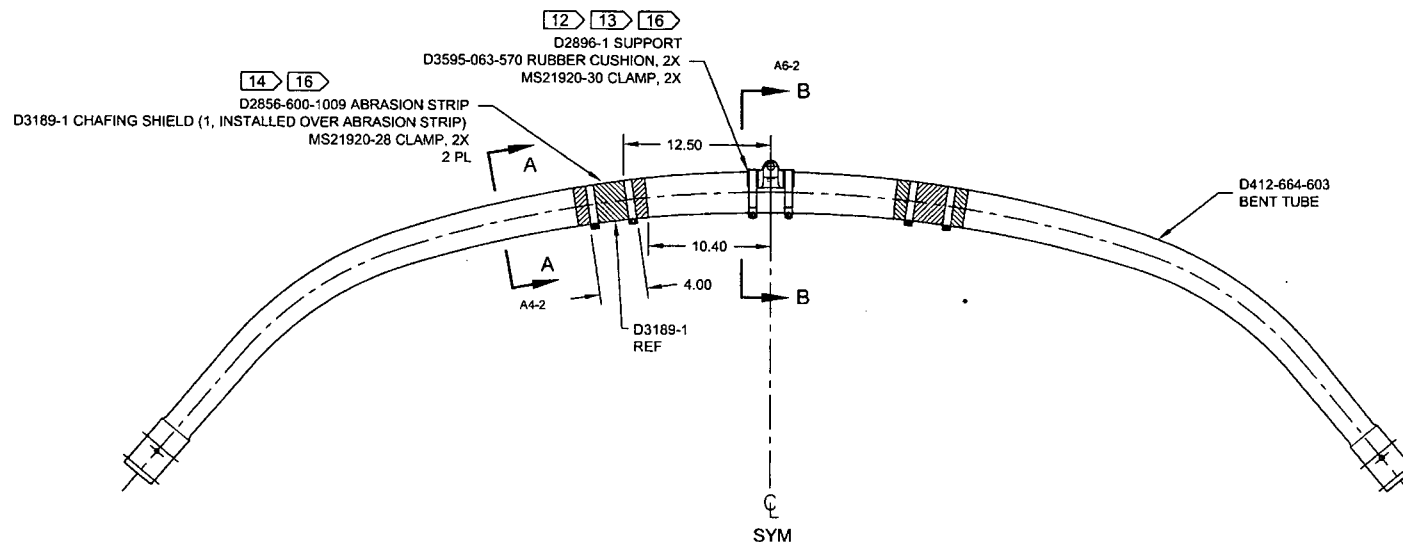
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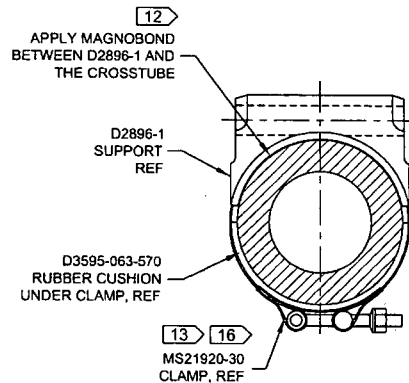
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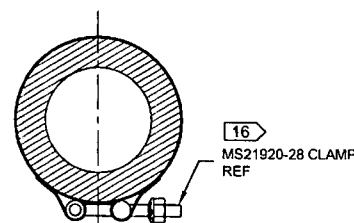


D212-664-243
ASSEMBLY DETAIL

w/o 43399



SECTION B-B D4-2
SCALE 4X



SECTION A-A C6-2
SCALE 4X

RELEASED
2009-10-28
NMP

DESIGN	PH	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	92	DRAWING NO.	REV. E
MFG. APPR.	10	D412-664-243	SHEET 2 OF 4
APPROVED	10	TITLE	SCALE
DE APPR.	10	CROSSTUBE ASSEMBLY (412 HI AFT)	NTS
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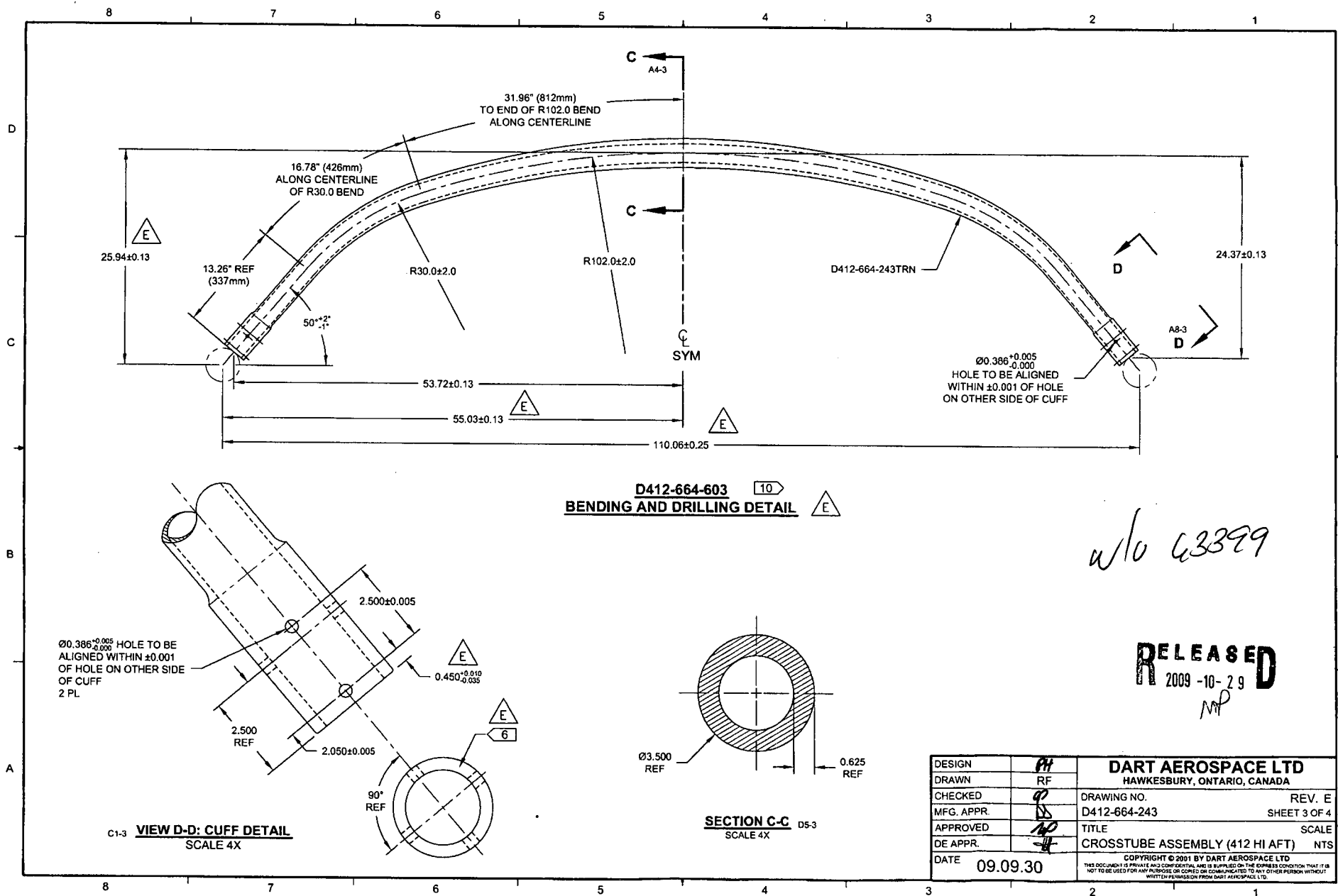
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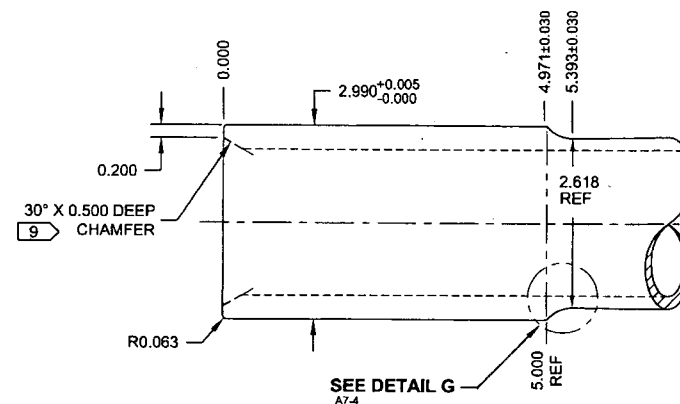
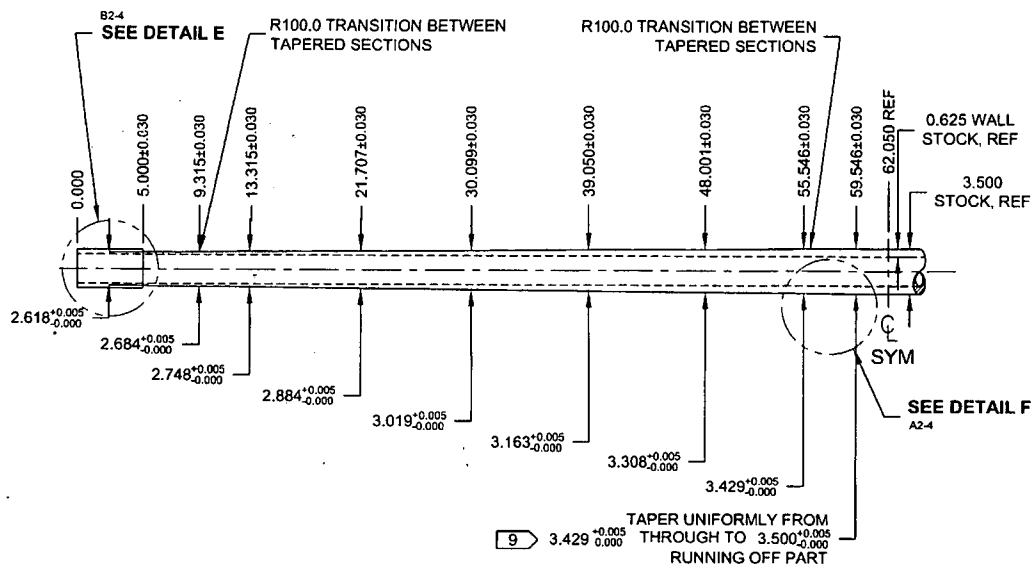
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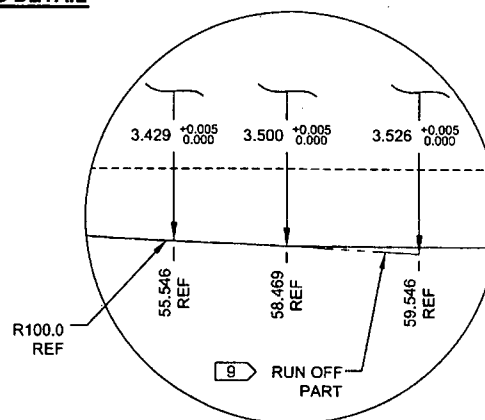
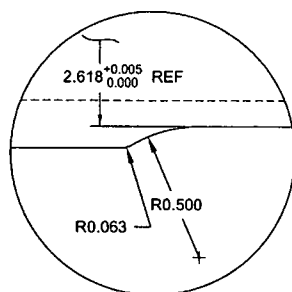
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w/b 43399



D412-664-243TRN
TURNING DETAIL



RELEASED
2009-10-29
MTP

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DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	92	DRAWING NO.	REV. E
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APPROVED	10	TITLE	SCALE
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